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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/198,022	11/23/1998	GEOFFREY B. RHOADS	4830-51475/W	1992

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DIGIMARC CORPORATION
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EXAMINER

JOHNS, ANDREW W

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 05/08/2002

22

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/198,022

Applicant(s)

RHOADS

Examiner

Andrew W. Johns

Art Unit

2621

— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2002.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 25-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☒ Claim(s) 22-24 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 November 1998 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 21. 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 15 February 2002 have been fully considered but they are not persuasive.

5 Applicant has argued that claims 1 and 17 are supported by the disclosure as filed on 17 March 1994 (as application S.N. 09/215,289). Specifically, applicant quotes a portion of the specification from that parent application, which mentions the use of the disclosed encoding for identifications cards such as drivers' licenses. Applicant argues that this disclosure provides adequate support for the claimed invention directed towards steganographic encoding the
10 photograph on a photo ID.

However, the portion of the disclosure relied upon by applicant is directed towards the shaping of the micro-topology of the document surface to embed the steganographic data. There is no suggestion in this quotation that suggests that any other disclosed embedding technique was or could be used on security documents such as photo ID's. Furthermore, claim 1, as amended,
15 requires that the encoding be locally scaled in amplitude in accordance with visible features of the graphic in which the information is encoded. The cited disclosure provides no discussion of scaling the amplitude of the shaping of the surface micro-topology in accordance with a visible feature of the document. Furthermore, there does not appear to be any discussion of such a local scaling associated with the visible features of a security document in any of the disclosures filed
20 prior to 08 May 1995. Therefore, the various priority applications do not show that applicant was in possession of the subject matter of claim 1 prior to 08 May 1995, and this is considered to be the effective date for claim 1 and the claims variously dependent therefrom.

In addition, claim 17 specifically requires that the steganographic information be encoded *in the photograph* of the photo ID. However, the disclosure cited by applicant describes the information as being encoded in or on the surface of the document, which is "plastic encased." There is nothing in this cited passage that suggests that the information is encoded into the photograph, which would be part of the document that is "encased" in the plastic. All of the discussion is directed towards encoding the information into the encasing plastic. Again, there does not appear to be any discussion of embedding steganographic information *in the photograph* of a photo ID, rather than in the plastic encasing the ID, in any of the disclosures filed prior to 08 May 1995. Therefore, the various priority applications do not show that applicant was in possession of the subject matter of claim 1 prior to 08 May 1995, and this is considered to be the effective date for claim 17.

Because the effective filing date of claims 1-17 is considered to be 08 May 1995, Kawakami et al. '060 continues to qualify as prior art for these claims. Furthermore, while applicant indicates that claim 1 has been amended to better distinguish the claimed invention from Kawakami et al. '060, the local scaling of the encoded information in accordance with the visible features of the document, as now required by claim 1, is taught by Kawakami '060. Specifically, on page 10, at lines 47-58, Kawakami et al. '060 teaches the use of an amplitude coefficient that is generated by a lookup table in response to the luminance of the document. This luminance coefficient (β) is used to scale the embedded information, as shown in the equations in lines 1-2 on page 11. Therefore, Kawakami et al. '060 meets this additional limitation set forth by claim 1, and continues to anticipate the claimed invention.

Election/Restrictions

2. Newly submitted claims 25-32 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: Claims 25-32 are directed towards a method of detecting alterations of a document that includes a photograph, classified in class 382, subclass 100, while claims 1-24 are directed towards a security/photo ID document that includes steganographically encoded data, classified in class 283, subclass 75. These two groups are related as product and process of use. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product (M.P.E.P. § 806.05(h)). In the instant case the product as claimed can be used in a materially different process such as authentication of the validity of the document, or the prevention of the copying of the security document. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes to one of these groups is proper.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 25-32 are withdrawn from consideration as being directed to a non-elected invention. See 37 C.F.R. § 1.142(b) and M.P.E.P. § 821.03.

Claim Rejections - 35 U.S.C. § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 1-4, 6-7 and 16-17 are rejected under 35 U.S.C. § 102(a) as being anticipated by
5 Kawakami et al. '060 (EP 0 642 060 A2).

Kawakami et al. '060 teaches a security document (i.e., an ID card; page 8, line 8) that includes a substrate (as shown in Figure 20A, the card includes a substrate that carries additional information), text printed on the substrate (identification number, for example; page 8, line 18), a graphic carried by the substrate (i.e., the photograph shown in Figure 20A), the graphic
10 conveying a visual impression to human viewers thereof (i.e., the image of a card owner), the graphic additionally being steganographically encoded (page 8, lines 9-10; specified information is embedded on card by overlapping the photograph; the embedding process is substantially imperceptible to a viewer; page 8, lines 23-25) to secretly convey plural bits of digital data (page
8, line 20; up to 72 bits can be embedded) recoverable by computer analysis of said graphic
15 (page 8, lines 5-7), the steganographic encoding being locally scaled in amplitude in accordance with visible features of the graphic (page 10, line 48 through page 11, line 4), as stipulated by claim 1. In addition, Kawakami et al. '060 also teaches that the graphic is a photographic image (page 8, line 9) as variously required by claims 2-3; that the digital data correspond to at least
20 part of the printed text (page 8, lines 16-20; specified information can correspond to the identification number of the card), as required by claim 4; that the steganographic encoding does not visibly interrupt the graphic (page 8, lines 23-25), as defined in claim 6; that the document be an identity document (page 8, line 8), as stipulated by claim 16; and that the steganographic encoding add noise to the graphic (page 7, line 58 through page 8, line 4; the additional information is extracted using filters to detect noise-like components added to the image), the

noise not perceptible as a representation of the plural bit digital data except by computer analysis, wherein the encoded graphic does not appear to convey digital data to human viewers thereof (page 6, lines 23-30; page 8, lines 23-25; the encoding should not affect the visual characteristics of the image, so that the image should not appear to convey digital data), as set forth in claim 7. Finally, Kawakami et al. '060 teaches a photo ID (page 8, line 8) that includes a photograph on a substrate (Figure 20A), the photograph portraying an individual (i.e., the card owner), multi-bit information (page 8, line 20; up to 72 bits can be embedded) steganographically encoded within the photograph (page 8, lines 9-10; specified information is embedded on card by overlapping the photograph; the embedding process is substantially imperceptible to a viewer; page 8, lines 23-25), said steganographic encoding not visibly interrupting the photograph (page 8, lines 23-25), wherein said encoding of the photograph serves to add noise thereto (page 7, line 58 through page 8, line 4; the additional information is extracted using filters to detect noise-like components added to the image), but this noise is not perceptible as a representation of the multi-bit information except by computer analysis, wherein the encoded photograph appears to convey only a image of the individual to human viewers thereof (page 6, lines 23-30; page 8, lines 23-25; the encoding should not affect the visual characteristics of the image, so that the image should not appear to convey digital data), as required by claim 17. Therefore, Kawakami et al. '060 meets each of the limitations of these claims and anticipates the claimed invention.

Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5 and 8-15 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kawakami et al. '060 as applied to claims 1-4, 6-7 and 16-17 above, and further in view of Wang et al. (US 5,471,533 A).

Kawakami et al. '060 meets a number of the limitations of the claimed invention, as pointed out more fully above. In addition, claims 9-11 and 13-15 correspond to claims 2-4, 6-7 and 16, and include limitations that are similarly taught by Kawakami et al. '060. However, Kawakami et al. '060 fails to specifically teach that the printed text on the document and the steganographically encoded data cooperate to verify the authenticity of the document, as further stipulated by claim 8, or that the digital data serve as an index to a registry containing additional information, as variously required by claims 5 and 12.

Wang et al. teaches a security document such as a photo ID (Figure 1A) which includes information that is steganographically encoded thereon (pattern can be printed in an ink that is transparent to visible light; column 4, lines 1-3), and further suggests that the information steganographically encoded on the document can cooperate with the information printed visibly on the document to verify the authenticity of the document (column 4, lines 19-32). Because both Wang et al. and Kawakami et al. '060 are directed towards preventing illicit modifications to security documents, and because Wang et al. shows the advantages of cooperation between the encoded data and the visible text data on a document, it would have been obvious to one of ordinary skill in the art to include such a relationship in the encoded information in Kawakami et al. '060 to provide better security against document modifications.

In addition, Wang et al. teaches that the digital data can serve as an index to a registry that includes additional information (column 9, lines 51-57). Because the use of the digital data to index such a registry allows for tracking of the security documents, thereby providing additional security for the documents, it would have further been obvious to one of ordinary skill in the art to use the encoded information in Kawakami et al. '060 to index a similar registry so as to keep track of the security documents. Therefore, the claimed invention would have been obvious to one of ordinary skill in the art at the time of the invention by applicant.

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 C.F.R. § 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 C.F.R. § 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 C.F.R. § 3.73(b).

8. Claims 18-21 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,343,138 to Rhoads. Although the conflicting claims are not identical, they are not patentably distinct from each other because the invention, as claimed in the instant application would have been obvious to one of ordinary skill in the art in view of the invention claimed in the '138 patent. Specifically, claim 1 of the patent stipulates a method of marking a security document to convey plural bit binary data, which is not apparent to human observers of the document but which can be detected from image

data generated by visible light scanning of the document. Because the method set forth in the patent claim would result in a security document having similar characteristics as the photo identification documents stipulated by the instant claims, one of ordinary skill in the art would have found the instant documents obvious in view of the method of the patent claim. Therefore, the instant claims are not patentably distinct from the claims of the patent.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

10. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 C.F.R. § 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Johns whose telephone number is (703) 305-4788. The examiner is normally available Monday through Friday, at least during the hours of 9:00 am to 3:00 pm Eastern Time. The examiner may also be contacted by e-mail using the address: andrew.johns@uspto.gov. (Applicant is reminded of the Office policy regarding e-mail communications. See M.P.E.P. § 502.03.)

If attempts to reach the examiner are unsuccessful, the examiner's supervisor, Leo Boudreau, can be reached on (703) 305-4706. The fax phone number this art unit is (703) 872-

9314. In order to ensure prompt delivery to the examiner, all unofficial communications should be clearly labeled as "Draft" or "Unofficial."

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center Customer Service Office whose telephone number is (703) 306-0377.



ANDREW W. JOHNS
PRIMARY EXAMINER

A. Johns
15 April 2002